Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A method for customizing scene content, according to a user or a cluster of users, for a given stereoscopic display, comprising the steps of:

a) obtaining customization information ~~describing a capability of a user to fuse~~ including a stereoscopic ~~images~~ image fusional range for the user or cluster of users;

b) obtaining a scene disparity map for at least one of a pair of given stereo images or ~~and~~ a three-dimensional (3D) computer graphic model;

c) determining an aim disparity range for the user or cluster of users;

d) at least one of generating a customized disparity map or ~~and~~ rendering conditions for a three-dimensional (3D) computer graphic model ~~correlating with the user's fusing capability of the given stereoscopic display~~; and

e) ~~at least one of~~ applying the customized disparity map or ~~and~~ rendering conditions for ~~one of~~ rendering or ~~and~~ re-rendering the stereo images for subsequent display, wherein the rendering or re-rendering the stereo images is responsive to the stereoscopic image fusional range for the user or cluster of users.

2. (Currently amended) The method claimed in claim 1, wherein the customization information further includes at least one of a user profile and a rendering intent subject to a predetermined task choice and/or skill level.

3. (Currently amended) The method claimed in claim 1, further comprising a step f) comprising at least one of:

(i) obtaining display attributes prior to determining the aim disparity range for the user,

(ii) displaying the stereo images ~~compatible to the user's capacity for fusing stereoscopic imagery~~, and

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(iii) determining a viewing distance of the user.

4. (Canceled)

5. (Original) The method claimed in claim 1, wherein the stereo images or 3D computer graphic model are obtained.

6. (Original) The method claimed in claim 1, wherein the scene disparity map is obtained for rendered stereo images.

7. (Original) The method claimed in claim 1, wherein a scene convergence point and depth information are obtained from the 3D computer graphics model.

8. (Canceled)

9. (Original) The method claimed in claim 1, wherein the step of generating a customized disparity map further includes using the scene disparity map for specific scene content and the aim disparity range according to the user in combination with a predetermined mapping function.

10. (Original) The method claimed in claim 9, wherein the predetermined mapping function is dependent on a region of interest.

11. (Original) The method claimed in claim 10, wherein the region of interest is dynamic.

12. (Previously presented) The method claimed in claim 1, wherein the rendering intent is dependent on skill of the user within a stereoscopic viewing environment.

13. (Original) The method claimed in claim 1, wherein the rendering intent correlates to a type of task that the user will perform in a stereoscopic viewing environment.

14. (Original) The method claimed in claim 1, wherein the step of generating the customized disparity map includes a re-mapping process.

15. (Original) The method claimed in claim 1, wherein the step of generating the customized disparity map is accomplished by applying a linear transformation to the scene disparity map.

16. (Original) The method claimed in claim 1, wherein the step of generating the customized disparity map is accomplished by applying a non-linear transformation to the scene disparity map.

17. (Original) The method claimed in claim 14, wherein a plurality of disparities in the scene disparity map are increased after re-mapping the customized disparity map.

18. (Original) The method claimed in claim 14, wherein a plurality of disparities in the scene disparity map are decreased after re-mapping the customized disparity map.

19. (Original) The method claimed in claim 10 wherein the region of interest is based upon a measurement of fixation position.

20. (Original) The method claimed in claim 10, wherein the region of interest is based upon a map of probable fixations.

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21. (Original) The method claimed in claim 1, wherein the step of determining an aim disparity range undergoes a calculation based on parameters selected from the group consisting of a viewing distance for the user and the display attributes.

22. (Original) The method claimed in claim 1, wherein the step of generating rendering conditions for a three-dimensional (3D) computer graphic model includes computing a location, an orientation, a focal distance, a magnification and a depth of field correlating to a pair of simulated cameras.

23. (Original) The method claimed in claim 1, wherein the step of applying the rendering conditions involves modifying one or more of a set of correlating camera measurements that include camera location, orientation, focal distance, magnification and depth of field.

24. (Withdrawn) A method for determining an aim disparity range for stereoscopic imaging, comprising the steps of:

    a) obtaining a stereoscopic display user's identifier;

    b) determining whether the stereoscopic display user has a user profile;

    c) retrieving a found user profile for the stereoscopic display user;

    d) creating the user profile where no existing user profile is found;

    e) obtaining rendering intent correlating to the stereoscopic display user; and

    f) calculating the aim disparity range subject to above steps.

25. (Withdrawn) The method for determining an aim disparity range as claimed in claim 24, further comprising the step of assigning values for

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skill level (Cs) of the stereoscopic display user and type of tasks (Ct) that the stereoscopic display user will perform.

26. (Withdrawn) The method for determining an aim disparity range as claimed in claim 24, further comprising the step of assigning a value, as an adaptive factor, Ca, for compensating for a dynamic viewing experience subject to the stereoscopic display user.

27. (Withdrawn) The method claimed in claim 24, wherein the user profile is created from the group consisting of on-display assessment, stored optometric data, and a default user profile.

28. (Withdrawn) The method claimed in claim 27, wherein the on-display assessment includes manipulating one or more test stimuli shown in a user interface for adjusting disparity between at least one target and the stereoscopic display user.

29. (Withdrawn) The method claimed in claim 27, wherein the on-display assessment includes automatic manipulation of one or more test stimuli shown in a user interface for adjusting disparity between at least one target and the stereoscopic display user.

30. (Withdrawn) The method claimed in claim 27, wherein creating the user profile includes the step of obtaining optometric parameters for a set of accommodation planes as the stored optometric data.

31. (Withdrawn) The method claimed in claim 30, wherein the step of obtaining optometric parameters includes selecting from the group consisting of inter-pupillary distance, near and distant testing distances, near and distant phoria, and near and distant fusional reserves.

32. (Withdrawn) The method claimed in claim 27, wherein the default user profile is determined using an optometric model.

33. (Withdrawn) The method claimed in claim 27, wherein the default user profile is determined using interpolation of a set of statistical data from an optometric assessment of the user population.

34. (Withdrawn) The method claimed in claim 30, further comprising the steps of:

a) generalizing the optometric parameters for a different set of accommodation planes;

b) calculating optometric parameters for a single accommodation plane of display;

c) obtaining comfort values for a user's fusing capability; and

d) determining the aim disparity range based on the optometric parameters and above steps.

35. (Currently amended) A stereoscopic display system customized for a user's stereoscopic fusing capability, comprising:

a)   an image source;

b)   a storage device for storing customization information including a ~~describing a capability of the user to fuse~~ stereoscopic ~~images~~ image fusional range for the user;

c)   a stereoscopic display device; and,

d)   a processor for

receiving images from the image source and the customization information from the storage device,

processing the images and providing a rendered image to the stereoscopic display, including modifying the disparity of one or more pixels in the image according to the stereoscopic image fusional range for the user ~~capability of the user to fuse stereoscopic images~~.

36. (Currently amended) The stereoscopic display system claimed in claim 35, wherein the <u>stereoscopic image fusional range for the user is determined using</u> ~~customization information includes~~ at least one of a capability of the user to converge the user's eyes, a capability of the user to diverge the user's eyes, a user's phoria, a user's capability of accommodation, a user's range of fusion, and a rendering intent of the image.

37. (Canceled)

38. (Original) The stereoscopic display system claimed in claim 35, further comprising:

  e) an input device communicatively linked to the processor for providing input data and/or functions to the processor.

39. (Original) The stereoscopic display system claimed in claim 35, further comprising:

  e) a sensor communicatively linked to the processor for providing sensory data and/or functions about the user to the processor.

40. (Previously presented) The stereoscopic display system claimed in claim 39, wherein the sensory data includes head positioning, accommodative of a state of the user's eye and a direction of eye gaze of the user.

41. (Currently amended) The stereoscopic display system claimed in claim 35, wherein the processor further comprises:

  i)   means for obtaining a scene disparity map for a pair of given stereo images and/or a three-dimensional (3D) computer graphic model;

  ii)   means for determining an aim disparity range for the user;

  iii) means for generating a customized disparity map correlating with the <u>stereoscopic image fusional range for the user</u> ~~user's fusing capability of the given stereoscopic display~~; and

  iv) means for re-rendering the stereo images for subsequent display.

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42. (Original) The stereoscopic display system claimed in claim 41, wherein the means for determining an aim disparity range for the user, includes:

a) means for obtaining a stereoscopic display user's identifier;

b) means for determining whether the stereoscopic display user has a user profile;

c) means for retrieving a found user profile for the stereoscopic display user;

d) means for creating the user profile where no existing user profile is found;

e) means for obtaining rendering intent correlating to the stereoscopic display user;

f) means for assigning values for skill level (C_s) of the stereoscopic display user and type of tasks (C_t) that the stereoscopic display user will perform;

g) means for assigning a value, as an adaptive factor, C_a, for compensating for a dynamic viewing experience subject to the stereoscopic display user; and

h) means for calculating the aim disparity range subject to above steps.

43. (Currently amended) A stereoscopic display system that determines an aim disparity range associated with a stereoscopic user, comprising:

a) means for determining aim disparity range based on optometric data, wherein said means further include:

b) means for obtaining optometric parameters for a set of accommodation planes;

c) means for generalizing the optometric parameters for a different set of accommodation planes;

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d) means for calculating optometric parameters for a single accommodation plane of display;

e) means for obtaining a comfort level related to the ~~values for a~~ user's fusing capability; and

f) means for determining the aim disparity range based on the optometric parameters and above steps.

44. (Withdrawn) A user interface for obtaining the stereoscopic capabilities of a user, comprising:

one or more objects of known visual disparity displayed by the user interface.

45. (Withdrawn) The user interface in claim 44, wherein the user indicates their comfort when viewing the object.

46. (Withdrawn) The user interface in claim 44, wherein the user controls the known visual disparity of the one or more objects and indicates when they are unable to fuse one or more of the objects.

47. (Withdrawn) The user interface in claim 44, wherein the known visual disparity of the one or more objects is automatically updated and indicates to the user when the user is or is not able to fuse one or more of the objects.

48. (Withdrawn) The user interface in claim 44, wherein a series of objects of known visual disparity is displayed and the user indicates which of these the user is or is not able to fuse.

49. (Withdrawn) The user interface in claim 44, wherein an accommodation distance for one or more of the objects is different than an accommodation distance for one or more additional objects.

50. (Withdrawn) A software product capable of determining a range of stereo disparities that a user can fuse.

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51. (Withdrawn) The software product as claimed in claim 50 capable of modifying rendering parameters within a computer application.

52. (Withdrawn) The software product as claimed in claim 51 capable of modifying the rendering parameters within a graphics rendering card.

53. (Currently amended) A method for customizing a stereoscopic display according to a user or a cluster of users, comprising the steps of:

a) obtaining customization information about the user, wherein the customization information includes <u>a stereoscopic image fusional range for the user</u> ~~at least one of a user profile describing a capability of the user to fuse stereoscopic images and a rendering intent subject to at least one of a predetermined task choice and a skill level~~;

b) obtaining at least one of stereo images and three-dimensional computer graphic models;

c) obtaining a scene disparity map for the at least one of stereo images and the three-dimensional computer graphic models;

d) selecting a mode of determining an aim disparity range for the user;

e) determining the aim disparity range for the user <u>responsive to the stereoscopic image fusional range for the user</u>;

f) generating a customized disparity map using the scene disparity map and the aim disparity range; and

g) re-rendering the stereo images for subsequent display <u>responsive to the customized disparity map</u>.

54. (Currently amended) A stereoscopic display system customized for a user's stereoscopic fusing capability, comprising:

a) an image source for supplying stereoscopic imagery;

b) a storage device for storing customization information including <u>a</u> ~~describing a capability of the user to fuse~~ stereoscopic ~~images~~ <u>image fusional range for the user</u>;

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c)   a stereoscopic display device to display stereo images; and,

d)   a rendering processor for receiving the stereoscopic imagery from the image source and rendering the stereoscopic imagery to provide rendered stereoscopic image pair information to the stereoscopic display, including manipulating the relative disparity in a stereoscopic image pair dependent upon a disparity map and the <u>image fusional range for the user</u> ~~customization information~~.

55. (Previously presented) The stereoscopic display system claimed in claim 54, further comprising:

an input device communicatively linked to the image processor for providing input data and/or functions to the image processor.

56. (Previously presented) The stereoscopic display system claimed in claim 54, further comprising:

a sensor communicatively linked to the rendering processor for providing sensory data and/or functions about the user to the rendering processor.

57. (Previously presented) The stereoscopic display system claimed in claim 56, wherein the sensory data includes head positioning, accommodative at least one of a state of the user's eye and a direction of eye gaze of the user.